

14.04 Share-Based Payment Transactions

Regardless of whether a **share-based compensation** transaction is with an **employee or nonemployee**, the entity will recognize the goods or services received when goods are obtained or services are received. In addition, the entity will recognize an increase in either *equity* or *liabilities*; thus, it is important to distinguish if the share-based payments are considered **equity** or a **liability**.

- When the transaction is for goods that provide a future value, such as inventory, an asset is recognized that is reported in earnings when the asset is sold or consumed.
- When the transaction is for services, they are recognized in income as they are consumed.

Noncompensatory Stock Options

Most stock options are considered compensatory and result in the recognition of compensation expense. Those that do not involve recognition of compensation expense are considered **noncompensatory**. To be considered noncompensatory, certain criteria must be met.

- The stock option plan must satisfy one of two conditions, **either**:
 - The terms are comparable, and no more favorable to terms offered to shareholders holding the same class of stock that is the subject to the plan; or
 - Any purchase discount below fair value at issuance is no greater than the costs that would have been incurred in a public offering of the securities, which is assumed to be the case if the discount is 5% or less.
- The plan is available to substantially all employees meeting limited employment requirements.
- The plan provides no special option features other than:
 - Permitting employees a period not to exceed 31 days to enroll in the plan once the purchase price has been determined.
 - The purchase price is determined based on the market price on the date of purchase.
 - Employees may be permitted to cancel participation before the purchase date.
 - Upon cancellation, employees would be refunded amounts previously paid.

No entry is reported for the granting of noncompensatory options nor upon their expiration, and the exercise of such options is recorded as a simple issuance of shares at the exercise price paid by the employee.

For example, if a company issues noncompensatory options granting all employees the right to buy shares in the company's \$10 par value stock for \$40 per share, the exercise of an option is reported as follows:

Cash	40	
Common stock		10
APIC-C/S		30

Initial Measurement of Share-Based Payment Transactions

According to ASC 718, all share-based compensation plans that do not meet all of the above criteria are compensatory, indicating that they will result in the recognition of compensation expense. A share-based transaction with employees/nonemployees will always be measured at the **fair value** of the equity instruments issued. The cost of goods obtained or services received from employees/nonemployees in a share-based transaction will generally be equal to either:

- The fair value of equity instruments issued as of the grant date; or
- The fair value of liabilities incurred.

If, however, the grantee pays (or is obligated to pay) an amount in exchange for the instruments granted, then that amount must be subtracted from the cost of goods obtained or services received.

Assume Grantee pays \$10 at the grant date for an option with a fair value of \$100 received in exchange for services provided by Grantee. The cost of the services is \$90.

Share-Based Payments Classified as Equity

The date on which the amount of compensation is determined is considered the *measurement date*, which is the date on which the options are granted (ie, **measurement date = grant date**). If stock options are traded in active markets, the fair value is readily determinable. In other cases, particularly when dealing with nonpublic entities, the fair value of the stock options is not readily determinable.

When that value of stock options is not readily determinable, an option pricing model will be used to determine the fair value of the options. A reliable model will take into account such factors as the exercise price, the expected life of the option, the current value of the underlying stock and the volatility of the underlying stock's price, dividends, and the risk-free interest rate.

- Originally, the FASB suggested a preference for the Black-Scholes model to estimate fair value. The formula used by this method is far too complicated to be learned, and no exam questions have ever asked for it to be applied.
- Recent FASB comments indicate a preference for the binomial distribution model, which is based on the expected cash flow method. Estimates are made as to the possibility of different price changes in the stock and decisions by employees to exercise, and a weighted average expectation is generated and discounted using interest rate assumptions.

A simplified example of the calculation of fair value based on the binomial distribution method follows.

Assume that a company has stock selling at \$30 at the time they issue stock options to key employees, giving them the right to purchase company stock at \$30, exercisable for a period starting in two years and ending in five years. The risk-free interest rate is 5%, the present value of \$1 for 2 periods at 5% is 0.91, and the present value of \$1 for 5 periods at 5% is 0.78.

The company estimates that 30% of the options will expire without ever being exercised, that 50% will be exercised in 2 years, at their earliest possible date, with the stock selling at an average \$40 price, and that 20% of the options will be held as long as possible and exercised in 5 years, just before expiration, at an average \$50 price. The gain to the employees who exercise the options will be the amount by which the value of the stock received exceeds the exercise price on the date of exercise. The fair value of the option under the binomial distribution method is \$7.67:

Result	Stock Price	Exercise Price	Gain	Factor	PV	%	Weighted Value
Expire	-	-	-	-	-	30%	-
Exer 2 Yrs	\$40	\$30	\$10	0.91	\$9.10	50%	\$4.55
Exer 5 Yrs	\$50	\$30	\$20	0.78	\$15.60	20%	<u>\$3.12</u>
Fair Value							\$7.67

When fair value cannot be determined with any degree of reliability, the entity will value stock options using the **intrinsic method**. Nonpublic entities may also make a one-time election to use the intrinsic method, which is an irrevocable election. Under the intrinsic method, the options are measured on the basis of the difference between the exercise price and the fair value of the share on the measurement date.

- If the fair value of the stock is greater than the exercise price, compensation will be equal to the difference multiplied by the number of options.
- If the fair value of the stock is equal to or lower than the exercise price, there will be no compensation.

No entry is required at the time stock options are granted, although many entities will recognize deferred compensation for the total amount, the number of options multiplied by the fair value of an option, with a credit to APIC from stock options outstanding.

The entity must make an accounting policy election as to how to measure the total amount of compensation, which is based on the number of options that are expected to vest and become exercisable. The **two methods** that the entity will choose between will be:

- To estimate the number of options expected to be forfeited before becoming exercisable; or
- To account for forfeitures when they occur.

Under the **first approach**, if a company issued 100,000 options to employees that vest over 3 years with an expected turnover rate of 2% per year, the number of options expected to be exercisable will be calculated as follows:

- Year 1 – 2% will terminate employment, resulting in forfeitures of $2\% \times 100,000$ or 2,000, leaving 98,000 options.
- Year 2 – An additional 2% will terminate employment, resulting in forfeitures of 2% of 98,000 or 1,960, leaving 96,040 options.
- Year 3 – An additional 2% will terminate employment, resulting in forfeitures of 2% of 96,040 or 1,921, leaving 94,119 options that are estimated to become exercisable.

Total compensation expense will be 94,119 multiplied by the fair value per option and will be recognized over the 3-year vesting period.

Assume the 100,000 options, issued on 1/1/X1, each give the employee the right to buy one share of the company's \$10 par value common stock for \$34, its current selling price. The option can be exercised after 1/1/X4 if the employee remains in service to the company and expires on 12/31/X6. The company is using the fair value method, and the value at 1/1/X1 using the binomial distribution model is estimated at \$6 per option.

On the **date of grant**, the entry is based on 94,119 options at \$6:

1/1/X1	Deferred compensation	564,714	
	APIC-Stock options outstanding		564,714

Compensation expense is recognized over the period during which the employee is performing services for the entity in exchange for the compensation. This can be determined on the basis of the terms of the option.

- If the option is immediately exercisable, it indicates that the compensation is for services already rendered.
 - On the date of grant, the total amount of compensation will be recognized as compensation expense.
 - No deferred compensation is recognized.
- If the options are not immediately exercisable, the compensation will be recognized over the period from the grant date through the date on which the options become exercisable.
 - When options become exercisable, they are said to be vested on such date.
 - The period is referred to as the vesting period.

As for vesting, under a **cliff vesting** schedule, options vest all at once or 100 percent after five years of service. Under a **graded vesting schedule**, employees are 20 percent vested after three years of service and become 20 percent vested each year after that until they are 100 percent vested after seven years.

Since the employee must remain for 3 years before the option can be exercised, the compensation expense is allocated over that time:

12/31/X1, 12/31/X2, & 12/31/X3		
Compensation expense	188,238	
Deferred compensation		188,238

Assuming that the entity's actual turnover is the same as estimated turnover, the same entry will be made every year. If actual turnover differs, the amounts will be adjusted prospectively.

At the time the options are exercised the journal entry would be:

Cash (94,119 × \$34)	3,200,046	
APIC Stock options O/S (94,119 × \$6)	564,714	
Common Stock (94,119 × \$10)		941,190
APIC Common Stock (94,119 × \$30)		2,823,570

Now let's look at the **second approach**, assuming the same facts and circumstances. In addition, actual forfeitures were 2,100 in year 1, 2,250 in year 2, and 1,950 in year 3.

On the **date of grant**, the entry is based on the total 100,000 options at \$6:

1/1/X1	Deferred compensation	600,000	
	APIC-Stock options outstanding		600,000

To recognize compensation expense at the end of the 1st year, first, 1/3 of the total compensation, \$600,000/3 or \$200,000, is recognized as compensation expense:

12/31/X1	Compensation expense	200,000	
	Deferred compensation		200,000

The forfeitures are then recognized. With 2,100 options forfeited, at \$6 each, total forfeitures will be \$12,600, 1/3 of which relates to year 1 with the remaining 2/3 relating to years 2 and 3:

APIC-Stock options outstanding	12,600	
Compensation expense		4,200
Deferred compensation		8,400

This reduces deferred compensation to \$600,000 - \$200,000 - \$8,400, or \$391,600.

To recognize compensation expense at the end of the 2nd year, first, 1/2 of the remaining deferred compensation, \$391,600/2 or \$195,800, is recognized as compensation expense:

12/31/X2	Compensation expense	195,800	
	Deferred compensation		195,800

The forfeitures for year 2 are then recognized. With 2,250 options forfeited, at \$6 each, total forfeitures will be \$13,500, 2/3 of which relates to years 1 and 2, with the remaining 1/3 relating to year 3:

APIC-Stock options outstanding	13,500	
Compensation expense		9,000
Deferred compensation		4,500

This reduces deferred compensation to \$391,600 - \$195,800 - \$4,500 or \$191,300.

To recognize compensation expense at the end of the 3rd year, first, the remaining deferred compensation, \$191,300, is recognized as compensation expense:

12/31/X3	Compensation expense	191,300	
	Deferred compensation		191,300

The forfeitures for year 3 are then recognized. With 1,950 options forfeited, at \$6 each, total forfeitures will be \$11,700, all of which will be recognized:

APIC-Stock options outstanding	11,700	
Compensation expense		11,700

Disclosures

- Vesting requirements, maximum term of options granted and number of shares authorized for grants of options
- The number and weighted-average exercise of prices of each group of options
- Weighted average grant-date fair value of options granted
- Description of methods used and assumptions made in determining fair values of options
- Total compensation cost recognized for the year
- For O/S options, range of exercise prices

- For options that are being reported under the intrinsic method (only applicable to options granted before the effective date of SFAS 123 revised), pro forma disclosures of the impact on earnings if the fair value method had been used.

Share-Based Payments Classified as Liabilities

Although stock options often provide a nice benefit to employees (or nonemployees), there are limiting factors that may make it difficult for grantees to exercise them.

- They must have the cash to pay the exercise price.
- They will be taxed in the period of exercise based on the difference between the stock's market value and the option price.

To make certain that grantees have the opportunity to take advantage of a share-based compensation plan, entities will often use an alternative, such as **stock appreciation rights (SAR)**. A SAR works similarly to a stock option in that:

- It is granted to employees (or nonemployees), specifying an option price.
- It is generally not immediately exercisable and vests over a period from the grant date to the exercise date at a future time.
- It is generally exercisable for a certain length of time.

A SAR may be exercised at any time from the vesting date to the expiration date. When it is exercised, rather than purchase a share of stock for the exercise price, the employee will be compensated for the difference between the market value of the share on the exercise date and the exercise price (**measurement date = settlement/exercise date**).

For publicly held companies, compensation related to share-based plans classified as liabilities is the same as for those classified as equity in that both are recognized on the basis of fair value. The measurement date, however, is the date of settlement.

Nonpublic entities may recognize share-based payment arrangements as liabilities either at fair value or at intrinsic value and will make a policy decision as to which.

Since the share-based payment will be made in cash, rather than through the issuance of shares, the transaction results in the recognition of a liability instead of equity. Unlike stock option rights, where the total amount of compensation for the plan is determined on the grant date, compensation in a SAR plan is measured in each reporting period.

For example, assume an entity has given its president 100 stock appreciation rights on 1/1/X1, exercisable on 12/31/X3 and expiring on 12/31/X5. The stock price on various dates was as follows:

1/1/X1	\$20
12/31/X1	\$23
12/31/X2	\$26
12/31/X3	\$25
12/31/X4	\$27
12/31/X5	\$30

In the first year, the **stock increased \$3**, indicating total compensation of \$300 ($\3×100 rights). Since only 1/3 of the vesting period has elapsed, only 1/3 of the compensation expense will be recognized:

Compensation expense	100	
Liability for appreciation rights		100

In the second year, the stock increased to \$26, indicating that total compensation of \$600 ($\6×100 rights). Since 2/3 of the vesting period has elapsed, 2/3 of the compensation expense, \$400, has been incurred. Compensation expense of \$100 was previously recognized, requiring recognition of an additional \$300 in the current period:

Compensation expense	300	
Liability for appreciation rights		300

At the end of the third year, the stock price has declined to \$25 per share, indicating total compensation expense of \$500 ($\5×100). Since \$400 has been incurred in the preceding two periods, and additional \$100 in compensation expense will be recognized in the current period.

Compensation expense	100	
Liability for appreciation rights		100

As of the end of 20X4, the SARs have not been exercised. As a result, the liability is remeasured with any adjustment recognized in the current period as an increase or decrease to compensation expense. Since the price is now \$27, total compensation is \$700. This is compared to the \$500 recognized to date requiring additional compensation expense of \$200.

Compensation expense	200	
Liability for appreciation rights		200

Finally, on 12/31/X5, when the SARs are getting ready to expire, the president exercises them. At that point, the value of the stock is \$30 per share, indicating compensation of \$10 per share or \$1,000. The liability has a balance of \$700, requiring the following entry:

Compensation expense	300	
Liability for appreciation rights	700	
Cash		1,000